

Ben G. Almond • Vice President, Regulatory Affairs • phone 202.419.3020 • fax 202.419.3047

October 28, 2002

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

RE: Section 68.4(a) of the Commission's Rules Governing Hearing Aid
Compatibility Telephone, WT Docket No. 01-309 **Ex Parte**

Dear Ms. Dortch:

This is to inform you that on October 23, 2002, representatives of Siemens and Cingular Wireless met with members of the Wireless Telecommunications Bureau, Consumer and Governmental Affairs Bureau and the Office of Engineering Technology to discuss issues related to the referenced proceeding. The attached document was used for presentation and discussion purposes. Please associate this notification and the accompanying document with the referenced docket proceeding. The list of attendees who attended the meeting or participated via conference bridge is attached.

If there are any questions concerning this matter, please contact the undersigned.

Sincerely,

Ben G. Almond
Vice President-Federal Regulatory Affairs

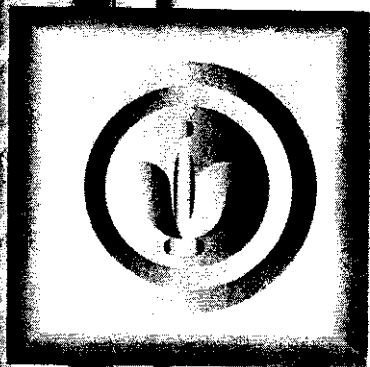
Attachments

Cc:	Blaise Scinto	Patrick Forster	Tom Chandler
	Mindy Littell	Andra Cunningham	Janet Sievert
	Joseph Levin	Jerry Stanshine	Gene Fullano

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DATE

Ex Parte mtg. w/ POC - 10/23 - Hearing Aid Compatibility
WT Docket 01-309

Mindy Little, WTB Policy Div
Patrick Forster, WTB Policy Division
Andrea Cunningham, WTB Policy Division
Tom Chandler, CGB/Disability Rights Office
Janet Sievert, CCA/Disability Rights office
Joseph Levin, WTB/Policy
Blaise Scinto, WTB/Policy
Ben Almonro, Cingular Wireless
Scott Constance, Siemens Mobile Phones
Ross D. Vincenti, Siemens Mobile
Jerry Stanshine, OET/NTD
Mark Eskrick, Siemens Govt Affairs
Gene Mullano, CGB/DRO/FO
Steve Berger, Consultant - Siemens (conference bridge)
Brian Fontes, Cingular Wireless (conference bridge)
David Shively, Cingular Wireless (conference bridge)
Susan Palmer, Cingular Wireless
...



Hearing Aid Compatibility

Cingular Wireless
Siemens

Introduction

- **The current situation is very different from 1996!**
- ***Cingular and Siemens are working together to understand:***
 - ***Where we stand today?***
 - ***What segments of the market have made good progress?***
 - ***Where is more help needed?***

A Multifaceted Problem

- **Wireless HAC is not a single problem**
- **Hearing aids come in many types, using many technologies**
- **Handsets use different technologies**
- **Individual hearing loss & preferences dramatically affects the effectiveness of solutions**

No “One Size ₃ Fits All” Solutions

Introduction

SHHH Study Reports:

@Hearingaid users want to use digital wireless technologies

- ***Almost 2/3 of respondents currently use a cell phone***
- ***The most popular way to listen is on microphone settings -- not T-coil settings***

What we know

- A lot of progress has been made
- Through ANSI C63 both industries have agreed on the technical requirements
- *The current situation needs to be clearly quantified*
- Appropriate next steps need to be planned



Overview

- **Technical Analysis**
 - RF interference
 - T-Coil Coupling

Nature of RF Interference

- **Interference occurs when an RF signal is demodulated across a non-linear junction.**
- **Interference problems are solved by appropriately matching:**
 - **RF emission levels**

with

 - **RF immunity**
- ***Solving interference problems requires addressing both emission and immunity.***

Key Factors for Handsets

- Phone emissions are tightly regulated
 - *Minimum* level is determined by energy required to communicate with the basestation
 - *Maximum* handset levels are limited by FCC
- Phone acoustic levels are tightly regulated
 - *Minimum of 95 dB SPL* volume maximum per Industry Specifications
 - *Maximum* is set by the acoustic safety

Key Factors for Hearing Aids

- Hearing aid *immunity* has generally *risen by a factors of >100* since the mid-1990s
(HIA comments to FCC)
- Hearing aids are semi-custom products, tailored to each user.
- *Hearing aids with good immunity and wireless phones that work together effectively are on the market and increasing in market share.*

T-Coil Coupling

- **The T-Coil method was designed around incidental flux leakage in older wireline phones.**
- **FCC Part 68 HAC rules were designed for wireline phones**
- **Between 70-80% of Hearing Aids do not have T-coils**

Wireless T-Coil Issues

- FCC Part 68

- ⌘ no requirement for interference
- ⌘ no requirements for signal quality.

⌘ T-Coil coupling is an AM transmission:

- ⌘ There is *no security* for the signal being transmitted

- ⌘ There is *no immunity* to interference from any source

- ANSI C63.19 was specifically developed to deal with Wireless HAC.



Siemens Unique Perspective

- **Siemens is the only major vendor that manufactures both hearing aids and handsets**
- **Siemens is one of the top 2 hearing aid vendors in the US**
- ***Siemens efforts are based upon addressing both emission and immunity***

Efforts To Date - Siemens

- **Siemens Hearing:**

- incorporated RF immunity as a core technical requirement
- actively exploring new technological solutions

- **Siemens Wireless:**

- Partnered to provide T-Coil compatibility in headsets
- extensively in research resulting in:
 - 2 Patents applied for
 - Investigation into innovative directional antennas

Next Steps

- **Cingular & Siemens are working to quantify the current situation**
 - Lab testing - planned for Q4 2002
 - Consultation with consumer experts
- **Pursuing revision of FCC Part 24.232 to allow further exploration of directional antennas**
- **Further actions will be determined by results of testing**

Next Steps

e FDA must be more actively involved

Recommendation:

FCC and FDA coordination through ANSI C63 is a natural vehicle to pursue this issue

e Hearing industry is dealing with:

- **Product line validation problem**
- **Harmonization issues**

Conclusions

- **Wireless Industry must partner with:**

- @HearingAid vendors to coordinate emissions & immunity**

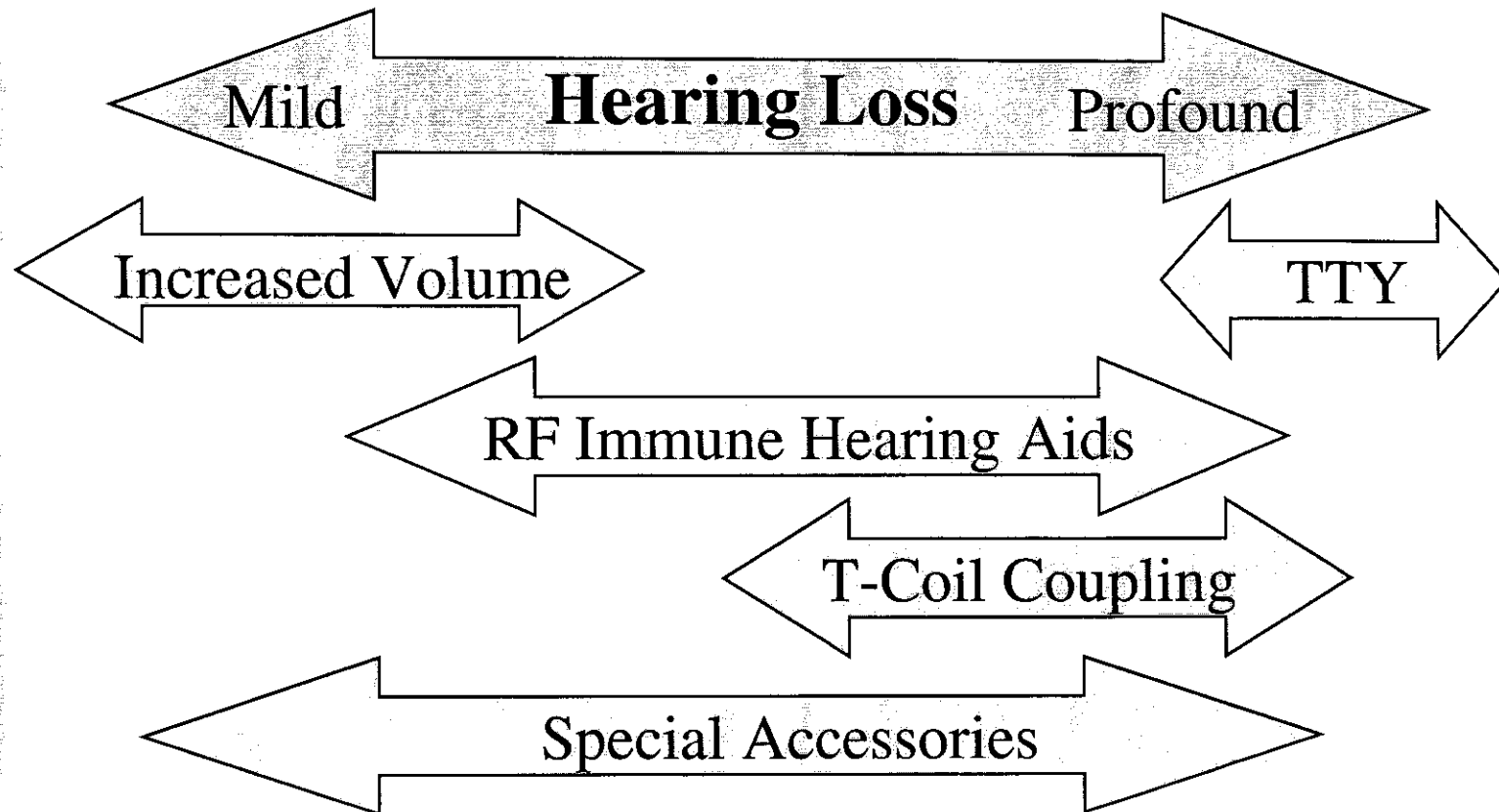
- @Accessoryvendors to provide 3rd party options that cannot be built into the handset**

- @Consumergroups**

Conclusions

- **No “One Size Fits All” Solution**

- **A matrix of**





Conclusions

***To develop the solutions that can meet
the range of consumer needs all
parties need to work together***